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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/538,174

06/09/2005

Timothy R Miller

10X-196-US

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51204

7590

03/26/2008

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EXAMINER

CORRIELUS, JEAN B

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

03/26/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/538,174	Applicant(s) MILLER ET AL.	
	Examiner Jean B. Corrielus	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2005 and 30 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9,10,12,15-20,22,23,26,27,29,31-33 and 35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,12 and 15 is/are rejected.
- 7) ☒ Claim(s) 2-7, 9-10,16-20, 22-23, 26-27, 29, 31-33 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/9/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

The disclosure of the prior-filed application, Application No. 60/433,618, fails to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for one or more claims of this application. The disclosure of the above application does not provide support for any of claims 1-7, 9-10, 12, 15-20, 22-23, 26-27, 29, 31-33 and 35. accordingly the claims do not entitled to the benefit of application no. 60/433,618.

The disclosure of the prior-filed application, Application No. 60/431,708, fails to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for one or more claims of this application. The disclosure of the above application does not provide support for any of claims 26, 27, 29, 31-33 and 35.

Accordingly claims 26, 27, 29, 31-33 and 35 do not entitled to the benefit of application no. 60/433,618.

Claim Objections

2. Claims 1-7, 9-10, 12, 26-27, 29, 31-33 and 35. are objected to because of the following informalities: as per claim 1, the feedforward circuit, as recited in the claim , is not seen receiving any “signal input “ . The same comment applies to similar limitation recited in claim 26. claim 4 recites “an other scaling circuit” in line 3. However, there is no limitation to “a first or previous scaling circuit”. The same comment applies to similar limitation recited in claim 7, line 3. claim 7, line 5 recites “an other summer” however there is no reference to a previous of first summer. Note that any claim whose base claim is objected is likewise objected. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 12 and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Turner US patent No. 5,561,687 in view of Naito US patent No. 6,553,058.

As per claims 1 and 15, Turner discloses a method and apparatus fig. 5 comprising a delay line 81, coupled to an input signal see output of summer 54 and comprising a delay circuit 81 coupled to an output combiner 56, the delay line operable to provide an output signal considered as the claimed "interim signal"; and a feed forward circuit (82, 85 and 83) coupled to the delay line 81 and operable to provide a feed forward signal see output of summer 83 that comprises a hard decision (output by decision device 85) scaled according to a scaling factor see col. 8, lines 44-45, wherein the output combiner 56 is operable to combine the feed forward signal and the output of the delay circuit (interim signal) to provide an output signal that is delayed relative to the input signal and compensated for an adverse effect of the wireless channel on the input signal (note that equalizer's function is to compensate for adverse effect of the wireless channel). However, Turner does not teach that the scaling factor corresponds to an estimate of channel parameters. however, as evidence by Naito, it is well known in the art to scale a decision signal by a value corresponding to the channel estimate see fig. 2 elements 72 53 and 61 and corresponding text. given that fact, it would have been obvious to one skill in the art to scale the decision signal by a value corresponding to

the channel estimate in order to in order to enhance signal detection since contribution of the channel would have been reduced and/or eliminated.

As per claim 12, Turner and Naito fail to teach that the signal is a BPSK signal. However, it is well known in the art to generate a signal using BPSK modulation scheme. Given that, it would have been obvious to one skill in the art to provide a BPSK signal at the input in order to satisfy the input requirement of the receiver, so that original signal can be recovered.

Allowable Subject Matter

6. Claims 2-7, 9, 10, 16-20, 22-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 26-27, 29, 31-33 and 35 would be allowable if amended to overcome the objection set forth above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Monday-Thursday from 9:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jean B Corrielus/
Primary Examiner, Art Unit 2611